

WHAT IS CLAIMED IS:

1. A synthetic paper which comprises a film obtained by oxidizing the surface of a film obtained by stretching a resin film comprising as the base material a resin composition comprising

100 parts by weight of resin components comprising

component A: a polypropylene resin 55-90 wt%

component B: a polyetheresteramide containing aromatic rings which is derived from

component b1: a polyamide having a number-average molecular weight of from 200 to 5,000 and containing a carboxyl group at each end

component b2: an alkylene oxide adduct of bisphenol having a number-average molecular weight of from 300 to 5,000

5-40 wt%

component C: a polyamide resin 3-20 wt%

and

component D: at least one modified low-molecular weight polypropylene selected from the following components d1 to d3

1-20 wt%

component d1: an acid modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to

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25,000 and an acid value of from 5 to 150,

component d2: a hydroxy modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and a hydroxyl value of from 5 to 150,

component d3: an ester modified low-molecular weight polypropylene obtained by partly or wholly esterifying component d1 with a polyoxyalkylene compound and having a number-average molecular weight of from 1,000 to 28,000,

the total amount of all resin components being 100 wt%, and

from 10 to 250 parts by weight of

component E: fine inorganic particles, said stretching being conducted at a temperature lower than the melting point of the polypropylene resin as component A.

2. The synthetic paper as claimed in claim 1, wherein the stretched resin film is one obtained by compounding a resin composition comprising the polypropylene resin as component A, the polyetheresteramide having aromatic rings as component B, the polyamide resin as component C, and the modified low-molecular weight polypropylene as component

D with the fine inorganic particles as component E, melt-extruding the resulting resin composition into a film, and then stretching the extrudate with an ordinary uni- or biaxially stretching machine either uniaxially from 3 to 8 times or biaxially from 10 to 60 times in terms of areal ratio at a temperature lower than the melting point of the polypropylene resin.

3. The synthetic paper as claimed in claim 1, wherein the stretched resin film has a void content as calculated using the following equation (1) of from 10 to 60%

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$$\text{Void content (\%)} = \frac{\rho_o - \rho}{\rho_o} \times 100 \quad (1)$$

ρ_o : density of the unstretched film

ρ : density of the stretched film.

4. The synthetic paper as claimed in claim 1, wherein the oxidation of the surface of the stretched resin film is conducted by a treatment selected from corona discharge treatment, flame-plasma treatment, flame treatment, glow discharge treatment, and ozone treatment.

5. The synthetic paper as claimed in claim 4, wherein the corona discharge treatment is performed in an amount of from 20 to 500 W/min·m².

6. The synthetic paper as claimed in claim 1, wherein the polyetheresteramide having aromatic rings as component B has a reduced viscosity (0.5 wt% m-cresol solution, 25°C) of from 0.5 to 4.0.

7. The synthetic paper as claimed in claim 1, wherein the polyetheresteramide having aromatic rings as component B is a polymer derived from the following components b1 and b2:

component b1: a polyamide having a number-average molecular weight of from 500 to 3,000 and containing a carboxyl group at each end,

component b2: an alkylene oxide adduct of bisphenol having a number-average molecular weight of from 1,000 to 3,000.

8. The synthetic paper as claimed in claim 1, wherein the polyetheresteramide having aromatic rings as component B is a polymer synthesized from ϵ -caprolactam, an ethylene oxide adduct of bisphenol A, and adipic acid.

9. The synthetic paper as claimed in claim 1, wherein the polyetheresteramide having aromatic rings as component B is a polymer synthesized from 12-aminododecanoic acid, adipic acid, and an ethylene oxide adduct of bisphenol A.

10. The synthetic paper as claimed in claim 1, wherein the polyamide resin as component C has a reduced viscosity (97% sulfuric acid, concentration 1 g/100 ml, 30°C) of from 0.8 to 5.

11. The synthetic paper as claimed in claim 1, wherein the polyamide resin as component C is a polyamide selected from the group consisting of nylon 66, nylon 69,

nylon 610, nylon 612, nylon 6, nylon 11, nylon 12, nylon 46, nylon 6/66, nylon 6/10, nylon 6/12, and nylon 6/66/12.

12. The synthetic paper as claimed in claim 1, wherein the modified low-molecular weight polypropylene as component D is at least one member selected from the following components d1 to d3:

component d1: a modified low-molecular weight polypropylene having a number-average molecular weight of from 1,000 to 20,000 and an acid value of from 10 to 100,

component d2: a modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and a hydroxyl value of from 10 to 100,

component d3: a modified low-molecular weight polypropylene obtained by partly or wholly esterifying component d1 with a polyoxyalkylene compound and having a number-average molecular weight of from 1,200 to 25,000.

13. The synthetic paper as claimed in claim 1, wherein the modified low-molecular weight polypropylene as component D is a polymer obtained by reacting a low-molecular weight polypropylene having a number-average molecular weight of from 700 to 20,000 with an unsaturated acid selected from acrylic acid, methacrylic acid, maleic acid, maleic anhydride, fumaric acid, itaconic acid, itaconic anhydride, and citraconic anhydride.

14. The synthetic paper as claimed in claim 1, wherein the modified low-molecular weight polypropylene as

component D is a polymer obtained by reacting the modified low-molecular weight polypropylene as claimed in claim 13 with an aliphatic amine selected from monomethanolamine, monoisopropanolamine, diethanolamine, and diisopropanolamine.

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15. The synthetic paper as claimed in claim 1, wherein the modified low-molecular weight polypropylene as component D is a polymer obtained by esterifying part or all of the carboxylic acid moieties of the modified low-molecular weight polypropylene as claimed in claim 13 with a hydroxylated polyoxyalkylene compound.

16. The synthetic paper as claimed in claim 1, wherein the fine inorganic particles as component E are particles of at least one member selected from calcium carbonate, calcined clay, silica, diatomaceous earth, talc, titanium oxide, lithium chloride, potassium chloride, magnesium chloride, calcium chloride, sodium bromide, potassium bromide, and magnesium bromide.

17. The synthetic paper as claimed in claim 1, wherein the resin composition comprises 100 parts by weight of resin components consisting of

component A: a polypropylene resin	60-85 wt%
component B: the polyetheresteramide	
having aromatic rings	5-30 wt%
component C: a polyamide resin	3-15 wt%

and

component D: the modified low-molecular weight

polypropylene

3-15 wt%

the total amount of all resin components being 100 wt%
and from 10 to 250 parts by weight of
component E: fine inorganic particles.

18. The synthetic paper as claimed in claim 1, which
has a thickness of from 8 to 300 μm .

19. A synthetic paper which comprises a biaxially
stretched thermoplastic resin film base material and,
laminated thereto on each side, a surface layer consisting of
a uniaxially stretched film of the resin composition as
claimed in claim 1.

20. The synthetic paper as claimed in claim 19,
wherein surface layer consisting of a stretched film of the
resin composition as claimed in claim 1 has a thickness of
from 5 to 50 μm , and the total thickness of all constituent
layers is from 8 to 300 μm .

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